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ABSTRACT

This study investigated the effect of long-term professional social agency support on the level of stress perceived by mothers (N=65) of preschoolers with disabilities. Mothers completed the Questionnaire on Resources and Stress (QRS-F) and the Holmes and Rahe Social Readjustment Rating Scale. The hypothesis that stress is greater for mothers of children with a severe rather than mild disability was supported. Mothers caring for an infant under 2 years of age reported more stress than the mothers of preschool-aged children. Sex of child was not related to maternal stress. Married mothers reported higher stress than single parents. Maternal stress was modified by program support regardless of high or low socioeconomic status (SES), welfare recipient status, or extent of personal support network. Responses on the QRS-F revealed that mothers did not tend to see the child as the cause of family problems or as a burden. Single, low-SES mothers seemed to profit especially from sustained professional supports from the time of the infant's birth. Tables detailing the study's findings are attached. (Contains 14 references.) (DB)

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A PROFESSIONAL SUPPORT PROGRAM FOR FAMILIES OF HANDICAPPED

PRESCHOOLERS: DECREASE IN MATERNAL STRESS¹

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ABSTRACT

This study investigated the effects of long-term social agency support for families with disabled preschoolers. The hypothesis that stress would be greater for mothers of children with a severe rather than mild disability was supported. Mothers caring for an infant under two years with a disability reported more stress than mothers of preschool age children, but sex of child was not related to maternal stress. Married mothers reported higher stress than single parents. Agencies may need to tailor program supports more specifically for fathers. Maternal stress was modified by program support regardless of high or low SES or Welfare recipient status or extent of personal support network. Maternal responses on the Questionnaire on Resources and Stress (QRS-F) revealed that the total sample of mothers of disabled preschoolers reported low stress as tallied by the "Perception of the child as the cause of family problems" and "Perception of the child as burden" subscores. Mothers of more severely disabled preschoolers accurately appraised the greater severity of handicap compared with mothers of mildly disabled children. The greater the proportion of the child's life that support was provided, the lower the QRS-F pessimism scores. Low SES mothers who were single seemed to profit especially from sustained professional supports from the time of the baby's birth.

A PROFESSIONAL SUPPORT PROGRAM FOR FAMILIES OF HANDICAPPED
PRESCHOOLERS: DECREASE IN MATERNAL STRESS

The birth of a child with a developmental disability increases stress on families. They must cope with unexpected and additional needs and the burden of planning for special services and programs for the child. Mothers of preschool children have reported feelings of shock and guilt, sorrow and depression, and the most depressed mothers were poor and single mothers of severely retarded children (Mary, 1990). Increased stress for single middle class mothers of mildly to severely mentally retarded infants and toddlers has also been noted (Beckman, 1983). The amount of care required of developmentally disabled preschoolers leads to high maternal stress regardless of race, income, and marital status (Eheart and Ciccone, 1982; Gowen, Johnson-Martin, Goldman, & Applebaum, 1989).

Purpose of This Study

The present study investigated the effect of long term professional agency support on stress perceived by mothers of disabled preschoolers. Since maternal stress is reported as a frequent concomitant of caring for a disabled young child, particularly for families of low socioeconomic status (SES), this study investigated whether stress was differentially greater for mothers who were of low SES and had younger and more severely disabled children.

This study further examined the premise that a high-quality social service support agency can be effective in reducing self-

reported maternal stress in families with disabled young children, regardless of marital status, SES, child age and sex. The social agency (whose clients are the subjects for this study) provides support, information, and services for families with mild and severely disabled preschoolers from birth onward. Family stress factors in addition to those related to having a handicapped child were assessed. Analyses also probed for a possible relationship between the extent of the mother's personal support network and self-reported stress due specifically to severity of disability.

Methods and Procedures

Subjects

A representative sample of families with disabled preschoolers ($N = 65$) was recruited from an Upstate New York social welfare agency with the consent of the New York State Office of Mental Retardation and Developmental Disabilities. The children's disabilities ranged from mild to severe. The Hollingshead (1957) two-factor Index of Social Status was used to classify mothers as high SES ($n = 32$) (categories I-III) and low SES ($n = 33$) (categories IV through V). There were 13 single and 52 married mothers.

Ethnicity of the 26 girls and 39 boys was primarily Caucasian ($n=57$); six children were African-American and ethnicity was not specified for 2 children. There were 22 children in the age range birth-to-24 months ($M = 18$ months), and 43 children in the age range 3-to-6 years of age ($M = 4$ years, 5 months). The agency had served the families from 10.2 to 72 months, with an average service

length of 68 months. Thus, overwhelmingly, these families have received social and medical supports since the birth of their disabled child.

Severity of the disability for each preschooler was coded from the medical and psychological records obtained by the social agency at time of intake. For this study, handicap was dichotomized as mild ($\underline{n} = 41$) or severe ($\underline{n} = 24$).

Assessments

The Questionnaire on Resources and Stress (QRS-F), a 52-item true-false, self-report questionnaire is designed to assess the degree of stress of parents of handicapped children (Friedrich et al., 1983). The validity of its use with parents of handicapped children has been confirmed by Scott, Sexton, Thompson, & Wood (1989). The QRS-F has a reliability of .951. Factor analysis of QRS-F yields four main factors: 1- perception of child as cause of parent and family problems; 2- pessimism; 3- perception of child as a burden, and 4- perception of degree of child physical incapacity.

In addition to the QRS-F, mothers completed the Holmes and Rahe (1967) Social Readjustment Rating Scale (H-R), a 43-item weighted checklist, which provides a separate measure of life event stresses unrelated to having a disabled child.

Mothers provided reports of the number of kin and friends perceived as personal supports. All data were gathered in confidential individual interviews at the family's home by a trained social worker (CJW) who was trusted by the families. Table 1 reports sample demographic data and QRS-F subscores.

Insert Table 1 about here

Results and Discussion

Stress Perception of Mothers of Preschoolers with Disabilities

For the total sample, mothers did not perceive that they were stressed specifically because of having a child with disability. The entire group of mothers had low stress scores: $\bar{M} = 6.82$ out of possible 20 total points on QRS-F I (Perception of the child as cause of family problems), and $\bar{M} = 6.18$ out of possible 15 total points on QRS-F III (Perception of child as burden) (See Table 1). Thus, despite the fact that they are caring for preschool children with disabilities, these mothers did not report feeling much stress as a result of the child's disability.

Support by professional agency personnel from the birth of the child onward may have enabled mothers to cope with caring for the disabled preschooler and to provide emotional acceptance for the youngster without using Freudian defense mechanisms such as "projection of evil onto the child", that is, feeling that this child is a burden and the special cause of family griefs and troubles.

Severity of Handicap and Maternal Perceived Stress

For mothers of mildly vs. severely handicapped preschoolers, the mean total QRS-F scores were 19.56 vs. 23.83 ($t = -1.72$, $p < .05$). Thus, the initial hypothesis was confirmed. The overall QRS -F stress score for mothers of severely handicapped preschoolers was

significantly greater compared with mothers of mildly disabled youngsters. Total score differences were accounted for by the differences in Factor 2 - pessimism ($\bar{M} = 4.61$ vs. $\bar{M} = 6.13$, $t = -2.21$, $p < .025$, one-tailed test) and Factor 4 - perception of handicap severity ($\bar{M} = 2.17$ vs. $\bar{M} = 4.33$, $t = 5.57$, $p < .0005$, one-tailed test) (See Table 2).

Insert Table 2 about here

It is important to note that on the other QRS-F factors, mothers of mildly and severely disabled youngsters did not differ. That is, mothers of severely disabled preschoolers did not perceive the child as the cause of family problems and did not perceive the child as a burden any more than did the "mild disability" group.

Factor IV subscores reveal that the mothers of the more severely handicapped children realistically estimated the degree of severity of their child's handicap and future difficulties for that child. When Factor IV subscores were split at the mean into high and low subscores, of the 24 mothers with severely disabled youngsters, 23 reported high QRS-F IV subscores [$\chi^2 (1, N = 65) = 18.91$, $p < .0001$]. Mothers of severely handicapped preschoolers assessed handicap severity accurately and appraised more realistically the more problematic prognosis for the child.

Effect of Kin/Friend Supports

The extent of the personal kin and friend social network reported by the mothers did not correlate significantly with

maternal total QRS-F score or with QRS-F subscores 1, 11, or 111. A significant Pearson r correlation was found for QRS-F ($r = .26$, $p < .05$). Mothers, who perceived the child's degree of physical incapacity as more severe reported a larger personal support network. Their needs for respite care may be more urgent and impel them to reach out to seek extra personal support.

The availability of social supports has been related to positive mother-child interactions and negatively related to maternal stress (Adamkos, Ryan, Ullman, Pascoe, Diaz, & Chessare, 1986; Weinraub & Wolf, 1983). The lack of relationship between social support and maternal stress found in this study may be due to the long-term positive effect of professional supports for these families in reducing maternal stress. Where personal support networks for a family are not in place, due to familial isolation, immigrant status, or geographical relocation of a family with a disabled youngster, the importance of a supportive agency program for families becomes even more critical. These data suggest that agency supports are effective as a buffer against increased maternal stress due to the birth of a child with disabilities, regardless of the extent of individual maternal support networks.

Duration of Agency Service and Parental Coping

With the ongoing assistance of professional supports and external resources, even those families living in poverty and with severely disabled children may be able to find inner resources to cope with rearing a handicapped child without becoming overwhelmed by stress. The potential effectiveness of program as a function of

duration of provision of service was tested by correlating the proportion of child lifetime and years of receiving agency services with maternal QRS-F stress scores. QRS-F factor IV was significantly correlated ($r = .41$, $p < .0008$), so that the more severely disabled children had spent a higher proportion of their lifetime receiving agency services. Their mothers accurately perceived the extent of their severe disability. Yet, the QRS-F pessimism subscore was significantly negatively correlated with length of service received ($r = -.26$, $p < .04$). That is, the greater the proportion of the child's life that the mothers had received professional support services, the less pessimistic they were.

Family Life Stresses in Relation to Maternal Stress Report

A Chi-Square analysis of the Holmes and Rahe scores, using a mean split ($M = 169.9$, $SD = 129.09$) produced 28 cases above the mean and 37 cases below the mean. There was no significant χ^2 relationship between the level of child severity of disability in this sample and perceived level of maternal stress on H-R items which reflect stresses not related to child disability status.

Mothers on Public Assistance. Living on Public Assistance may be considered an additional life stressor. Of the 12 mothers in this sample who received Public Assistance support, four had severely disabled children; yet their H-R scores were low, and there was no significant correlation ($r = -.15$, ns) between H-R scores and level of severity of child handicap.

Further support for the hypothesis that sustained professional

support for families can decrease stress is revealed by the significantly lower total QRS-F stress scores, Factor I scores (Perception of the child as cause of family's problems) and Factor II (Pessimism) scores of the 12 mothers receiving Welfare support, despite the fact that four of these mothers had children with severe disabilities. The effects of poverty per se for low-income parents of handicapped children can be mitigated by excellent, long-term social support services.

Social Class and Maternal Stress

When QRS-F scores were analyzed as a function of socioeconomic class (SES), Middle SES mothers' total scores were not significantly different ($\bar{M} = 19.15$) from low SES mothers ($\bar{M} = 23.19$), although they did differ on one subscore. Middle SES mothers were significantly more likely to perceive the severity of the handicap as graver than lower SES mothers ($\bar{M} = 3.56$ vs. $\bar{M} = 2.39$, $p < .01$, one-tailed t -test). More highly educated parents may have read more materials and been better informed about the long term sequelae of a child's disability (See Table 4).

Insert Table 4 about here

Household Headship and Maternal Stress

Household headship was related to perceived maternal stress. Mothers who were married ($n = 52$) had significantly higher total QRS-F scores than single mothers ($n = 13$) ($\bar{M} = 22.38$ vs. $\bar{M} = 16.15$, $p < .05$, two-tailed t -test). Married mothers were more likely to be

pessimistic in assessing the severity of handicap ($M = 5.64$ vs. $M = 3.31$, $p < .01$, two-tailed t -test). Single mothers seemed to have profited more from the social support provided by the agency; they expressed more optimism about their child. Mothers with spouses reported a stronger perception of the long term negative consequences of child disability.

Researchers have suggested that the presence of an intimate relationship seems to protect women from experiencing depression following a serious life event (Brown & Harris, 1978). The present results seem puzzling in the light of prior findings. However, other researchers have reported that spouses may serve both as supports and as stressors in some families (Boukydis, 1987). It is of interest to note that only 31 of the 52 married mothers (60%) actually listed the spouse as a member of their personal support network. Fourteen of these 31 (45%) had severely disabled children, 12 (29%) had younger preschool children and four (13%) had both young and severely disabled children. Among the single mothers, 5/13 (39%) had severely disabled children, and four (31%) had younger preschool children; one had a younger severely disabled child. Having a mate in the home who was acknowledged as a support by the mother did not reduce reported maternal stress in this study. One implication from these data is that social service personnel may need to reach out more to fathers of handicapped children. Fathers need opportunities to express concerns and negative feelings. Professionals can help fathers develop more open spousal communication and more effective coping skills. As well,

they can provide practical ideas for fathers so that they can emotionally support the mothers, who often assume the major burdens of caring for a disabled young child.

Sex and Age of Child

Sex of child was not related to reports of maternal stress, either on QRS-F subscores or on total score. Since male toddlers are reported to be more needy emotionally and more physically active than females (Wittmer & Honig, 1987), the lack of sex differences may reflect the quality and sensitivity of counselling provided by agency social work personnel.

A MANOVA was performed to determine differences between maternal stress reports as a function of having children who were infants and toddlers vs. having preschool age children. The Wilks' Lambda was significant [$F(4, 60) = 7.80, p < .0001$]. Younger age was found, by univariate ANOVAS, to contribute to maternal stress for Factor IV only. That is, mothers with children younger than two years of age reported significantly more stress in terms of perception of severity of handicap. Since disabled young children are often delayed in independent locomotion and in toilet learning, the additional physical burdens that these circumstances place on caregivers make these mothers' higher stress responses more understandable.

Life Conditions and Child Characteristics

Given the numbers of demographic and personal report variables in this research, it is of interest to examine what life conditions and child characteristics are indeed associated with greater

reported maternal stress. Four hierarchical regression analyses were performed with child age, SES, household headship, personal-social support, and severity of handicap as independent variables and the four QRS-F factor scores as dependent variables. R^2 was significant for Factor II (Pessimism) [$F(5, 59) = 3.15$, $p < .05$] and for Factor IV (Perception of Handicap Severity) [$F(5, 59) = 11.39$, $p < .0001$], but not for the other factors.

Research on immigrant mothers in France has found that lack of one or two living amenities in apartments was not as powerful a predictor of self-reported maternal stress as was a problematic interpersonal relationship between parent and toddler (Honig & Gardner, 1987). Social service personnel working with at-risk families and planning help for the family need to take into account parental **perceptions** as well as objective "family facts" such as poor living conditions or the extra work entailed in caring for a disabled child.

Conclusions

The hypothesis that mothers of more severely impaired children would report more overall personal stress was confirmed. Age, but not sex of child, was related to maternal stress. Mothers of infants under two years reported significantly more stress than mothers of preschoolers.

The professional support system available to these families from the birth of the baby onward made an impressive difference in maternal perceptions. Mothers of severely disabled youngsters were no more likely than mothers of mildly disabled children to perceive

their child as the cause of family problems or to perceive their child as a burden, although they were realistic in assessing the severity of disability. Results of this study indicate that a highly skilled cadre of professionals who offer information, services, and supports for families with handicapped preschoolers on a long-term basis from birth onward can mitigate psychological stress in mothers. Mothers receiving such services feel able to appraise realistically the prognosis and course of life for their severely handicapped young children and yet feel supported in their efforts to cope.

Married mothers reported higher stress than single mothers. Fathers may need more specialized, specifically tailored supports so that they can increase their communication competence and their ability to "buffer" mothers against the stress of providing the majority of caregiving for a young disabled child.

Low SES mothers who were single seemed to profit especially from professional sustained supports from the time of the birth of a handicapped baby. In the face of current attempts to cut services of support for disabled clients, these data confirm the positive effects of providing such supports for families of disabled children.

REFERENCES

- Adamkos, H., Ryan, K., Ullman, D. G., Pascoe, J., Diaz, R., & Chessare, J. (1986). Maternal support as a predictor of mother-child stress and stimulation. Child Abuse and Neglect, 10, 463-470.
- Beckman, P. (1983). Influence of selected child characteristics on stress in families of handicapped infants. American Journal of Mental Deficiency, 88(2), 150-156.
- Boukydis, C. F. Z. (Ed.) (1987). Research on support for parents and infants in the postnatal period. Norwood, NJ: Ablex.
- Brown, G. H., & Harris, T. (1978). Social origins of depression: A study of psychiatric disorder in women. New York: Free Press.
- Eheart, B., & Ciccone, J. (1982). Special needs of low income mothers of developmentally delayed children. American Journal of Mental Deficiency, 87(1), 26-33.
- Friedrich, W., N., Greenberg, M., & Crnic, K. (1983). A short form of the Questionnaire on Resources and Stress. American Journal of Mental Deficiency, 88, 41-48.
- Gowen, J., Johnson-Martin, N., & Goldman-Applebaum, M. (1989). Feelings of depression and parenting competence of mothers of handicapped and nonhandicapped infants: A longitudinal study. American Journal of Mental Retardation, 94(3), 259-271.
- Hollingshead, A. B. (1957). Two-factor index of social position. Unpublished manuscript (New Haven, CT: Yale University).

- Holmes, T. H., & Rahe, R. H. (1974). The Social Readjustment Rating Scale. Journal of Psychosomatic Research, 11, 213-218.
- Honig, A. S., & Gardner, C. (1987). Stress factors among overwhelmed mothers of toddlers in immigrant families in France. Early Child Development and Care, 28(1), 13-19.
- Mary, N. (1990). Reactions of black, hispanic, and white mothers to having a child with handicaps. Mental Retardation, 28(1), 1-5.
- Scott, R., Sexton, D., Thompson, B., & Wood, T. (1989). Measurement characteristics of a short form of the Questionnaire on Resources and Stress, American Journal on Mental Retardation, 94(3), 331-339.
- Weinraub, M., & Wolf, B. M. (1983). Effects of stress and social supports on mother-child interactions in single and two-parent families. Child Development, 54, 1297-1311.
- Wittmer, D. S., & Honig, A. S. (1987). Do boy toddlers bug teachers more? Candaian Children, 12(1), 21-27.

Table 1

Demographics

Variables	N	M	SD	Range
<u>Age</u> 0 - 2	22	18 mos.	.51	1 mo. - 2 yrs.
3 - 6	43	4 yr. 5 mos.	1.14	3 yrs. - 6 yrs.
<u>Sex</u> Female	26			
Male	39			
<u>SES</u> Low	33	4.64	.49	IV - V Hollingshead
High	32	2.16	.85	I - III Hollingshead
<u>Sev.</u> Severe	24			
Mild	41			
<u>HH</u> Single	13			
Married	52			
<u>Ethnicity</u>				
Caucasian	57			
Black	6			
Other	2			
<u>Average</u>				
<u>Proportion of</u>				
<u>Life in Program</u>	65	.68	.32	10.2 - 72 mos.
<u>Average Stress</u>				
<u>Scores</u>				
QRS-F I	65	6.82	4.97	0 - 19
QRS-F II	65	5.17	2.75	0 - 10
QRS-F III	65	6.18	3.11	0 - 13
QRS-F IV	65	2.97	2.03	0 - 6

Table 2

T-test Comparisons of QRS-F Scores for Mild and Severe Groups

<u>Medical Diagnosis of Handicap Severity</u>			
QRS-F Group	Mild <u>n</u> = 41	Severe <u>n</u> = 24	<u>t</u> -test
QRS-F I (Perception of Child as Cause of Family Problems)			
<u>M</u>	6.83	6.79	
	(4.84)	(5.31)	.029
QRS-F II (Pessimism)			
<u>M</u>	4.61	6.13	
	(2.69)	(2.63)	-2.21**
QRS-F III (Perception of Child as Burden)			
<u>M</u>	5.95	6.58	
	(3.28)	(2.83)	-0.79
QRS-F IV (Perception of Handicap Severity)			
<u>M</u>	2.17	4.33	
	(2.04)	(1.09)	5.57***
QRS-F Total			
<u>M</u>	19.56	23.83	
	(10.06)	(8.90)	-1.72*

Note. SDs are in parenthesis.

* $p < .05$, one-tailed. ** $p < .025$, one-tailed. *** $p < .0005$, one-tailed.

Table 3

T-test Comparisons of Low and High Support Groups

<u>Support Groups</u>			
<u>QRS-F Group</u>	<u>Low</u> <u>n = 33</u>	<u>High</u> <u>n = 32</u>	<u>t-test</u>
QRS-F I (Perception of Child as Cause of Family Problems)			
<u>M</u>	6.97 (4.81)	6.66 (5.21)	0.25
QRS-F II (Pessimism)			
<u>M</u>	4.91 (3.19)	5.44 (2.23)	-0.77
QRS-F III (Perception of Child as Burden)			
<u>M</u>	5.76 (3.12)	6.63 (3.09)	-1.13
QRS-F IV (Perception of Handicap Severity)			
<u>M</u>	2.55 (2.02)	3.41 (1.98)	-1.73*
QRS-F Total			
<u>M</u>	20.18 (10.09)	22.13 (9.55)	-0.80

Note. SDs are in parenthesis.

* $p < .05$, one-tailed.

Table 4

T-test Comparisons of Low and High SES Groups

	<u>SES Groups</u>		
<u>QRS-F Group</u>	Low <u>n</u> = 33	High <u>n</u> = 32	<u>t-test</u>
<u>QRS-F I (Perception of Child as Cause of Family Problems)</u>			
<u>M</u>	6.09	7.56	
	(4.83)	(5.08)	-1.20
<u>QRS-F II (Pessimism)</u>			
<u>M</u>	5.00	5.34	
	(2.51)	(3.00)	-0.50
<u>QRS-F III (Perception of Child as Burden)</u>			
<u>M</u>	5.66	6.72	
	(3.29)	(2.87)	-1.37
<u>QRS-F IV (Perception of Handicap Severity)</u>			
<u>M</u>	2.39	3.56	
	(1.87)	(2.05)	-2.40*
<u>QRS-F Total</u>			
<u>M</u>	19.15	23.19	
	(9.62)	(9.70)	-1.6840

Note. SDs are in parenthesis

*p<.01, one-tailed.

Table 5

T-test Comparisons of Headship Groups on QRS-F Scores

QRS-F Group	<u>Spousal Status</u>		<u>t</u> -test
	Single <u>n</u> = 13	2 Head <u>n</u> = 52	
QRS-F I (Perception of Child as Cause of Family Problems)			
<u>M</u>	4.69	7.35	
	(5.15)	(4.83)	-1.75*
QRS-F II (Pessimism)			
<u>M</u>	3.31	5.64	
	(3.15)	(2.46)	-2.88***
QRS-F III (Perception of Child as Burden)			
<u>M</u>	5.77	4.19	
	(6.29)	(2.82)	-0.53
QRS-F IV (Perception of Handicap Severity)			
<u>M</u>	2.39	3.12	
	(2.06)	(2.02)	-1.16
QRS-F Total			
<u>M</u>	16.15	22.38	
	(11.65)	(8.98)	-2.11**

Note. SDS are in parenthesis.

* $p < .10$, two-tailed. ** $p < .05$, two-tailed. *** $p < .01$, two-tailed.